

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of claims:

1-78 (Canceled)

1 79. (New) A method for preventing leakage into a perigraft space between an
2 endovascular graft that has been implanted in the lumen of a blood vessel of a human or
3 veterinary patient and an adjacent portion of the blood vessel wall, said method comprising
4 the steps of:

5 (A) providing a device comprising a solid member having expansile polymeric
6 material disposed thereon, said expansile polymeric material being i) initially in a non-
7 expanded state wherein a quantity of the polymeric material occupies a first volume and
8 b) subsequently expandable to an expanded state wherein said quantity of the polymeric
9 material occupies a second volume larger than the first volume and absorbs blood;

10 (B) inserting a cannula into a perigraft space between the endovascular graft and
11 the blood vessel wall;

12 (C) introducing the device through the cannula and into the perigraft space while
13 the expansile polymeric material is substantially in its non-expanded state;

14 (D) allowing the polymeric material to expand to its expanded stated within the
15 perigraft space such that the device substantially fills the perigraft space.

1 80. (New) A method according to Claim 79 wherein i) the adjacent portion of the blood
2 vessel wall is aneurysmic; ii) the endovascular graft is implanted within the blood vessel
3 such that it extends through the aneurysmic portion of the blood vessel and defines a
4 perigraft space between the graft and the aneurysmic wall of the blood vessel; and, iii) the

1 device is introduced into the perigraft space where the expansile polymeric material
2 expands to substantially fill the perigraft space.

1 81. (New) A method according to Claim 80 wherein the total volume of non-expanded
2 expansile polymeric material introduced in Step C is predetermined to substantially fill the
3 perigraft space after it has been allowed to expand in Step D.

1 82. (New) A method according to Claim 79 wherein the expansile polymeric material
2 is radiopaque.

1 83. (New) A method according to Claim 82 wherein the expansile polymeric material
2 is rendered radiopaque by the incorporation of radiopaque monomers.

1 84. (New) A method according to Claim 79 wherein the polymeric material expands to
2 its expanded state when the pH of its environment is a physiological pH of about 7.4.

1 85. (New) A method according to Claim 79 wherein the polymeric material is in the form
2 of pellets when introduced through the cannula.

1 86. (New) A method according to Claim 79 wherein the solid member is an elongate
2 member.

1 87. (New) A method according to Claim 86 wherein the solid member is filamentous.
2

1 88. (New) A method according to Claim 86 wherein a plurality of pieces of the polymeric
2 material are disposed at spaced-apart locations on said elongate solid member.

1 89. (New) A method according to Claim 88 wherein the device further comprises coil
2 spacers disposed on said solid member between pieces of the expansile polymeric
3 material.

1 90. (New) A method according to Claim 79 wherein the solid member is formed of
2 platmum.

1 91. (New) A method according to Claim 79 wherein the solid member is formed of
2 platinum and tungsten.

1 92. (New) A method according to Claim 79 wherein the solid member is formed of wire.

1 93 (New) A method according to Claim 79 wherein the solid member is formed of
2 polymeric material.

1 94 (New) A method according to Claim 93 wherein the solid member is formed of a
2 polymer filament.

1 95 (New) A method according to Claim 94 wherein the solid member is formed of a
2 polyvinyl alcohol filament.

1 96 (New) A method according to Claim 79 wherein the solid member is biased to a
2 coiled configuration.

3 97. (New) A method according to Claim 79 wherein the cannula is advanced through
4 the lumen of a catheter.

1 98. (New) A method according to Claim 97 wherein the catheter is a microcatheter.

1 99. (New) A method according to Claim 98 wherein the microcatheter has a lumen of
2 0.005-0.050 inch diameter.

1 100. (New) A method according to Claim 79 wherein the device is initially attached to a
2 delivery member by way of a detachable connection, said delivery member being useable
3 to advance the device into the perigraft space, said detachable connection being thereafter
4 detachable such that the delivery member may be retracted into the cannula while the
5 device remains in the perigraft space.

1 101. (New) A method according to Claim 79 wherein the polymeric material expands
2 more rapidly as the pH of its environment increases.

1 102. (New) A method according to Claim 79 wherein the polymeric material is a hydrogel.

1 103. (New) A method according to Claim 79 wherein the polymeric material is porous
2 when in its expanded state.

1 104. (New) A method according to Claim 103 wherein the porous polymeric material,
2 when substantially fully expanded, has pores of about 50-1000 microns in diameter.

1 105. (New) A method according to Claim 103 wherein the porosity of the polymeric
2 material, when substantially fully expanded, is at least about 50%.

1 106. (New) A method according to Claim 103 wherein the porosity of the polymeric
2 material, when substantially fully expanded, is between about 50% and about 95%.
3

1 107. (New) A method according to Claim 79 wherein the graft is implanted prior to
2 performance of Step B.

1 108. (New) A method according to Claim 107 wherein Step B further comprises:
2 causing the distal end of the cannula to enter the perigraft space by penetrating
3 through a portion of the graft.

1 109. (New) A method according to Claim 107 wherein Step B further comprises:
2 causing the distal end of the cannula to enter the perigraft space by advancing
3 through tissue of the patient's body, through the wall of the blood vessel adjacent to the
4 graft and into the perigraft space.

1 110. (New) A method according to Claim 107 wherein Step B further comprises:
2 passing a substantially hollow needle through tissues of the patient's body and
3 through the wall of the blood vessel adjacent to the perigraft space; and,
4 advancing the cannula through the needle such that the distal end of the cannula
5 enters the perigraft space.

1 111. (New) A method according to Claim 79 wherein the cannula is substantially rigid.

1 112. (New) A method according to Claim 79 wherein the cannula is substantially flexible.

1 113. (New) A method according to Claim 79 wherein the cannula comprises a metal tube.

1 114. (New) A method according to Claim 79 wherein the cannula comprises a plastic
2 tube.

1 115 (New) A method according to Claim 79 wherein the method is performed after an
2 endoleak has been detected as a means of treating the endoleak.

1 116. (New) A method according to Claim 79 wherein the method is performed before an
2 endoleak has been detected as a means for preventing an endoleak from occurring.

1 117. (New) A method according to Claim 79 wherein Step B comprises:
2 advancing a catheter to a first position within the patient's vasculature; and,
3 advancing the cannula through the catheter to a second position wherein the distal
4 end of the cannula is within the perigraft space.